whereby a defined structure of the fabric can be changed to adapt and optimize the actual fabric to the measured individual yarn diameters.

19.   The apparatus according to claim 18, wherein the at least one measuring device comprises an optoelectronic device.

20.   The apparatus according to claim 19, wherein the optoelectronic device comprises a measuring device that carries out absolute measurements and operates in an infrared range.

21.   The apparatus according to claim 18, wherein the measuring device has an accuracy of at least 1/100 mm.

22.   The apparatus according to claim 18, wherein the defined structure of the actual fabric is graphically represented.

23.   The apparatus according to claim 18, wherein each structure is defined by a two dimensional matrix.

24.   The apparatus according to claim 22, wherein the the computed actual fabric is represented on a screen.

25.   The apparatus according to claim 24, wherein a representation of the computed actual fabric comprises parallel projection of an object by via a three dimensional graphics library.

26.   The apparatus according to claim 18, comprising an output device comprising a color printer or a color copier.

27.   The apparatus according to claim 18, wherein the control and evaluation device controls the at least one measuring device.

28. The apparatus according to claim 18, wherein the at least one measuring

device comprises a plurality of measuring heads or measuring devices.

29. The apparatus according to claim 18, wherein a fabric density is set.

30. The apparatus according to claim 18, wherein for knitted fabrics, a

computation takes place in the control and evaluation device on the basis of

measured yarn data.

31. The apparatus according to claim 18, further comprising a statistical

evaluation device that statistically evaluates measured yarn data.

32. The apparatus according to claim 18, whereby the structure input device alters

or creates flat fabric structures.

33. The apparatus according to claim 18, wherein the structure input device and

the control and evaluation device comprise a computer.

34. A method for development of fabrics on the basis of measured yarn data using

an apparatus having a display device,

said method comprising the steps of:

measuring individual yarn diameters,

defining a freely definable structure,

computing and representing an actual fabric on the basis of the measured yarn diameters

and the freely definable structure,

changing the actual structure of the fabric so that the actual fabric is adapted and

optimized to the measured individual yarn diameters.